

SUPERFUND RESPONSE ACTION PRIORITY PANEL REVIEW FORM**Date Form Completed:** February 5, 2014**General Site Information**

Region: 2	City: Rockaway Township	State: New Jersey
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CERCLIS EPA ID: NJD047684451	CERCLIS Site Name: Radiation Technology, Inc.
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NPL Status: (P/F/D) Final	Year Listed to NPL: 1984
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Brief Site Description: *(Site Type, Current and Future Land Use, General Site Contaminant and Media Info, Site Area and Location information.)*

The Site is located in a predominantly rural area in the western portion of Morris County, New Jersey, at 108 Lake Denmark Road in the Township of Rockaway. It is situated approximately five miles north of Exit 37 of Interstate 80.

The entire Site consists of approximately 263 acres of land which is comprised of three distinct areas: the active former Radiation Technology, Inc. (RTI) complex (15 acres) the former Rockaway Industrial Park (RIP) (65 acres), and undeveloped land (183 acres) adjacent to those areas. Past activities at the Site have included the testing and development of rocket motors and propellants. More recent operations included irradiating food, cosmetics, and medical devices to sterilize them. Buildings in the RIP area have been vacant since 2006 and are in various stages of disrepair and/or disintegration. Only one business, Sterigenics International, occupies buildings on the former RTI portion of the Site.

Beginning in 1980, NJDEP and the Rockaway Township Health Department conducted numerous inspections of the Site. These inspections revealed that drums containing solvents and other organic chemicals were being improperly stored and disposed of by the owner and operator of Site, Radiation Technology, Inc.

In 1981, the Rockaway Township Health Department sampled two on-Site water supply wells. Results indicated that volatile organic compounds (VOCs) had contaminated the groundwater supplying these wells. They subsequently were condemned by the New Jersey Department of Health and the New Jersey Department of Environmental Protection (NJDEP), and were closed. On July 6, 1983, NJDEP and RTI signed a judicial Consent Order, which required RTI to install groundwater monitoring wells and collect samples for VOC analyses to determine the source of the contamination.

In August 1984, NJDEP issued a Site Evaluation Report with the objective of identifying sources of groundwater contamination at and around the RTI property. The results of the well sampling and analysis indicated that elevated levels of VOCs were present. Subsequently, the Site was placed on the National Priorities List (NPL) in September 1984.

On March 12, 1987, RTI entered into an Administrative Order on Consent (AOC) with NJDEP and agreed to pay the cost of an investigation into the nature and extent of contamination at the Site. On December 12, 1992, RTI signed a second AOC with NJDEP, agreeing to perform some cleanup activities at the Site. In May 1993, under NJDEP supervision, RTI removed and disposed of abandoned tanks and drums identified by the above investigation. On May 9, 1994, NJDEP issued a ROD selecting groundwater extraction and treatment as the remedy for the most-contaminated portion of the Site.

In November 1999, RTI filed for Chapter 11 bankruptcy. As a result, the NJDEP identified RTI as an unresponsive and recalcitrant responsible party. After RTI declared bankruptcy, the NJDEP requested that the EPA assume oversight of the project, to which the EPA agreed in January 2001.

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General Project Information

Type of Action:	Remedial	Site Charging SSID:	02X5
Operable Unit:	OU 3	CERCLIS Action RAT Code:	
Is this the final action for the site that will result in a site construction completion?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will implementation of this action result in the Environmental Indicator for Human Exposure being brought under control?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Response Action Summary

Describe briefly site activities conducted in the past or currently underway:

The following is a summary of the OU1 and OU2 previous investigations:

November 1980 to June 1981

The NJDEP and the Rockaway Township Health Department conducted various inspections of the site. The NJDEP also conducted investigations into the chemical types and quantities, waste disposal practices, and chemical waste characteristics associated with various production and manufacturing processes used at the site. Two principal on-site water supply wells were found to be contaminated with volatile organic compounds (VOCs) and were condemned by the Rockaway Township Health Department in June 1981.

August 1981

RTI was issued an Administrative Order and Notice of Prosecution, ordering RTI to properly remove and clean up all spills, buried wastes, and improperly stored waste materials.

September 21, 1984

The RTI site was included on the National Priorities List due to elevated levels of VOCs present in the groundwater sampled from the site.

May 9, 1994

NJDEP issued a ROD, selecting groundwater extraction and treatment as the remedy for the most-contaminated portion of the Site. Presently, the PRP is conducting a in-situ pilot test involving the injection of emulsified oils into the fractured bedrock to determine the effectiveness of this technology to treat groundwater contamination. Final pilot test sampling results are expected in April 2014.

October 2004 to August 2011

In October 2004, ATK and EPA entered into an AOC to investigate potential sources of groundwater contamination at the Site. ATK conducted a preliminary assessment of a waste/drum disposal area located within the active former RTI complex. The waste/drum disposal area investigation led to the selection of a remedy for the drum material and surrounding contaminated soils in a 2011 ROD. The selected remedy included excavation and off-site disposal and/or treatment. Remedial Action is expected to occur in Spring 2014.

October 2012 to February 2014

The OU3 RI/FFS began in 2012. The RI/FFS work was conducted by E&E, pursuant to an Interagency Agreement with the United States Army Corps of Engineers. During the OU3 RI the following portions of the site were investigated: East Stand Area (22 acres); South Stand Area (27 acres); and P2 Area (16 acres). The Preferred Alternative for achieving remedial action objectives for the OU3 portion of the Radiation Technology, Inc. Site is Alternative 3, Structure Demolition/Selective Removal. The extent of building/structure demolition and/or selective removal may change during the remedial design process: based on new information such as building stability.

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Specifically identify the discrete activities and site areas to be considered by this panel evaluation:

This remedial action for operable unit three will address contaminated building materials by reducing direct contact and biological uptake exposures; permanently removing PCB-contaminated, asbestos-containing and lead based paint materials. The extent of building/structure demolition and/or selective removal may change during the remedial design process: based on new information such as building stability.

Briefly describe additional work remaining at the site for construction completion after completion of discrete activities being ranked:

Currently a pilot study for operable unit one is expected to be completed in March to determine if in-situ treatment will sufficiently treat the groundwater rather than a extraction and treatment system. For operable unit two, drum disposal area, a remedial action is expected to be completed in spring 2014. Once all of these actions, including operable unit three, are completed the site can be considered for construction completion.

Response Action Cost

Total Cost of Proposed Response Action:

(\$ amount should represent total funding need for new RA funding from national allowance above and beyond those funds anticipated to be utilized through special accounts or State Superfund Contracts.)

The estimated capital cost of the remedy is \$2,000,000.

Source of Proposed Response Action Cost Amount:

(ROD, 30%, 60%, 90% RD, Contract Bid, USACE estimate, etc...)

The source of the cost information is the FFS report prepared by U.S. Army Corps of Engineers.

Breakout of Total Action Cost Planned Annual Need by Fiscal Year:

(If the estimated cost of the response action exceeds \$10 million, please provide multiple funding scenarios for fiscal year needs; general planned annual need scenario, maximum funding scenario, and minimum funding scenario.)

\$2,000,000 when available.

Other information or assumptions associated with cost estimates?

N/A

Readiness Criteria

1. Date State Superfund Contract or State Cooperative Agreement will be signed (Month)?

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August 2014

2. If Non-Time Critical, is State cost sharing (provide details)?

3. If Remedial Action, when will Remedial Design be 95% complete?

The RD will be limited and can be done in a couple of months.

4. When will Region be able to obligate money to the site?

August 2014

5. Estimate when on-site construction activities will begin:

December 2014

6. Has CERCLIS been updated to consistently reflect project cost/readiness information?

CERCLIS has been replaced with SEMS. Information is not yet available.

Site/Project Name:

Radiation Technology, Inc.

Criteria #1 - RISKS TO HUMAN POPULATION EXPOSED (Weight Factor = 5)

Describe the exposure scenario(s) driving the risk and remedy. Include risk and exposure information on current/future use, on-site/off-site, media, exposure route, and receptors:

As part of the RI/FFS, a Screening-Level Risk Assessment (SLRA) was conducted to estimate current and future effects of contaminants on human health. A standard Baseline Human Health Risk Assessment could not be performed, since the bulk building materials sampled are not available for reasonable dermal, ingestion or inhalation exposure. The SLRA, however, is a screening analysis for potentially hazardous substances on-site where there is a release or threat of release into the environment which could constitute a public health or environmental emergency. The concentrations of contaminants found in the various bulk material samples were compared with Removal Management Screening Levels (which assume residential use) and risk-based screening levels for residential and industrial soils from EPA's Regional Screening Tables (EPA 2013a). So while the steps of an SLRA differ from a standard Baseline Human Health Risk Assessment, the application of the major concepts is the same.

Hazard Identification

Various buildings and structures had elevated levels of metals and PCBs in the concrete bulk samples, PCBs in caulk, as well as remnants of oil sludge in standing water and containers in the buildings.

Asbestos

A total of 98 bulk samples of suspect Asbestos-containing materials (ACM) were collected and submitted for analysis. Different types of ACM (thermal system insulation and/or miscellaneous) were identified in 15 buildings/structures out of total of 35 at the RTI Site: East Stand Area (seven buildings); South Stand Area (four buildings) and P2 Area (four buildings). A total of 44 ACMs were confirmed through laboratory results to contain concentrations of asbestos ranging from 2% to 32%. Due to inaccessibility, two materials were assumed to be ACM. These materials include both friable asbestos materials and non-friable organically bound

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asbestos materials. The condition of all of the ACMs was identified as poor.

Estimate the number of people reasonably anticipated to be exposed in the absence of any future EPA action for each medium for the following time frames:

<u>MEDIUM</u>	<u><2yrs</u>	<u><10yrs</u>	<u>>10yrs</u>
Buildings/Structures	50	50	>50

Discuss the likelihood that the above exposures will occur:

Since the site is presently unused, the only human exposures likely to occur under existing conditions are occasional brief exposures of site trespassers. Since the ACMs are in poor condition, environmental conditions could lead to a release of ACM to the environment. The lead-based paint is also in poor condition. Potential lead exposure could most likely result from incidental ingestion of lead containing dust and paint chips. Inhalation of airborne dust is also possible, but is less likely than incidental ingestion and would probably result in much smaller exposures.

Other Risk/Exposure Information?

N/A

Site/Project Name: Radiation Technology, Inc.

Criteria #2 – SITE/CONTAMINANT STABILITY (Weight Factor = 5)

Describe the means/likelihood that contamination could impact other areas/media given current containment:

The contamination for this operable unit is found mostly in building materials used to construct buildings/structures used for rocket motor testing. Most of the impacts the contamination would have would be from trespassers, hunters, etc. coming into contact with and inhaling or ingestion of PCBs, lead-based paint and/or asbestos.

Are the contaminants contained in engineered structure(s) that currently prevents migration of contaminants? Is this structure sound and likely to maintain its integrity?

The contaminants are in buildings and structures, but will not prevent migration of contaminants. Most structures are not structurally sound.

Are the contaminants in a physical form that limits the potential to migrate from the site? Is this physical condition reversible or permanent?

The contaminants currently present in the source areas are primarily found in building materials. Since most of the buildings/structures found on-site are in poor conditions, this could lead to a release to the environment.

Are there institutional physical controls that currently prevent exposure to contamination? How reliable is it estimated to be?

No institutional controls are in place to prevent exposure to site contamination. While the site is fenced with a locked gate, the lock and fencing can be cut so that trespassers can access the on-site buildings, several of which are structurally unsound and are contaminated.

Other information on site/contaminant stability?

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An action is warranted at this Site due to the extremely deteriorated condition of the buildings and lack of security at the Site, allowing potential trespassers to access deteriorated structure materials.

Site/Project Name: Radiation Technology, Inc.

Criteria #3 – CONTAMINANT CHARACTERISTICS (Weight Factor = 3)

(Concentration, toxicity, and volume or area contaminated above health based levels)

List Principle Contaminants (Please provide average and high concentrations.):

(Provide upper end concentration (e.g., 95% upper confidence level for the mean, as is used in a risk assessment, or maximum value [assuming it is not a true outlier], along with a measure of how values are distributed {e.g., standard deviation} or a central tendency values [e.g., average].)

<u>Contaminant</u>	<u>*Media</u>	<u>**Concentrations</u>
Antimony	SL	0-57.5 mg/kg
Arsenic	SL	0-96.4 mg/kg
Lead	SL	0-1410 mg/kg
Manganese	SL	84.6-12800 mg/kg
Acetophenone	SL	0-0.7 mg/kg
Benzo(a)anthracene	SL	0-0.79 mg/kg
Benzo(a)pyrene	SL	0-0.3 mg/kg
Dieldrin	SL	0-4.4 mg/kg
Aroclor-1248	SL	0-680 mg/kg
Aroclor-1254	SL	0-82 mg/kg
Aroclor-1260	SL	0-20 mg/kg
PCBs (total)	SL	0-680 mg/kg

*(*Media: AR – Air, SL – Soil, ST – Sediment, GW – Groundwater, SW – Surface Water)*

*(**Concentrations: Provide concentration measure used in the risk assessment and Record of Decision as the basis for the remedy.)*

Describe the characteristics of the contaminant with regard to its inherent toxicity and the significance of the concentrations and amount of the contaminant to site risk. *(Please include the cleanup level of the contaminants discussed.)*

Health Effects Assessment:

Asbestos

Asbestos fibers can enter the body through inhalation, ingestion, and absorption. Health effects involving exposure to asbestos fibers include lung cancer, mesothelioma, gastrointestinal cancers, asbestosis, and other forms of lung diseases.

Lead-Based Paint

Exposure to excessive levels of lead can cause brain damage; affect a child's growth; damage kidneys; impair hearing; cause vomiting, headaches, and appetite loss; and cause learning and behavioral problems. In adults, lead can increase blood pressure and can cause digestive problems, kidney damage, nerve disorders, sleep problems, muscle and joint pain, and mood changes.

Describe any additional information on contaminant concentrations that could provide a better context for the

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distribution, amount, and/or extent of site contamination. *(e.g. frequency of detection/outlier concentrations, exposure point concentrations, maximum or average concentration values, etc.)*

N/A

Other information on contaminant characteristics?

N/A

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Site/Project Name:	Radiation Technology, Inc.	
Criteria #4 – THREAT TO SIGNIFICANT ENVIRONMENT (Weight Factor = 3) <i>(Endangered species or their critical habitats, sensitive environmental areas.)</i>		
Describe any observed or predicted adverse impacts on ecological receptors including their ecological significance, the likelihood of impacts occurring, and the estimated size of impacted area:		
The RI was limited to residual contamination of the remaining buildings and other structures that constitute operable unit 3 (OU3). Accordingly, the environmental sampling conducted as part of the RI for OU3 focused on these objects. Therefore a ecological risk assessment was not conducted for this OU.		
Would natural recovery occur if no action was taken? If yes, estimate how long this would take.		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
N/A		
Other information on threat to significant environment?		
N/A		
Site/Project Name:	Radiation Technology, Inc.	
Criteria #5 – PROGRAMMATIC CONSIDERATIONS (Weight Factor = 4) <i>(Innovative technologies, state/community acceptance, environmental justice, redevelopment, construction completion, economic redevelopment.)</i>		
Describe the degree to which the community accepts the response action.		
The community at large, as well as elected officials, are supportive of the planned response action.		
Describe the degree to which the State accepts the response action.		
The New Jersey Department of Environmental Protection agrees with the selected response action.		
Describe other programmatic considerations, e.g.; natural resource damage claim pending, Brownfields site, use of innovative technology, construction completion, economic redevelopment, environmental justice, etc...		